PLANT No. 71

PAL DECODER LINK ELECTRONICS

TYPE 228-3/007

— LINK ELECTRONICS.

MP MASTER

MA23327

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LINK ELECTRONICS LIMITED
KILDARE CLOSE · EASTCOTE · RUISLIP · MIDDLESEX
ENGLAND
Tel: 01-866 5515/6

P.A.L. DECODER type 228

Link Electronics P.A.L. decoder, type 228, makes extensive use of integrated circuits to achieve reliable, precision performance. The decoder is mounted in a slim, 1¾ inch high rack mounting frame which can be adapted to form a plinth for the colour monitor.

The decoder operates in the 'simple' or 'delay' mode, selected by a front panel switch or remotely if required.

Two, bridging, inputs are available, selected from the front panel or by a remote switch.

The remote control system is arranged to permit any number of decoders to be switched from one master control point, yet retaining the facility to switch inputs on any single unit without affecting the remainder. This gives the facility of switching all the decoders in a control room to a known test signal for quality and matching checks from one central control point.

When a signal other than P.A.L. is fed into the decoder the chrominance circuits are inhibited and the luminance channel notch filter removed. When operating normally on a P.A.L. colour signal the luminance channel has a notch filter inserted, symmetrical about the colour subcarrier frequency and arranged such that the luminance channel response returns to full amplitude above as well as below the subcarrier frequency.

A wide band, lumped constant, delay line is used in the luminance channel to equalise the chrominance/luminance timing. This advanced form of delay line enables the luminance channel response to be maintained substantially flat to 10 MHz, apart from the deliberate notch filter at subcarrier frequency.

The arrangement of the frame wiring is such that simple replacement of modules enables the decoder to operate on the 525/NTSC system.

SPECIFICATION

Power: 200-260 volts (117 available) 50/60 Hz, 15 VA nominal

Inputs: Two identical. 1 volt ±3dB, bridging. BNC connectors

Input return loss: 40dB

Input crosstalk: better than 60 dB

Outputs: 1 volt composite of Red, Green & Blue, each from 75Ω, ±1%, 2 volts syncs.

Luminance gain range: ±3dB

Chrominance gain range: ±3dB

Luminance response:

Monochrome..... 0.5dB to 10MHz
Colour (typical).. -1dB @ ±1.2MHz about subcarrier frequency
-3dB @ ±750KHz about subcarrier frequency
-23dB @ subcarrier frequency

Chrominance response: -2dB @ 1MHz, -6dB @ 1.6MHz

Video delay: 0.43 S nominal

Burst blanking rejection: 40dB

Subcarrier hold in range: 150Hz, pull in range 100Hz

Operating temperature range: 0 to 50°C

Controls: Saturation, Balance, Luminance gain, Simple/Delay switch

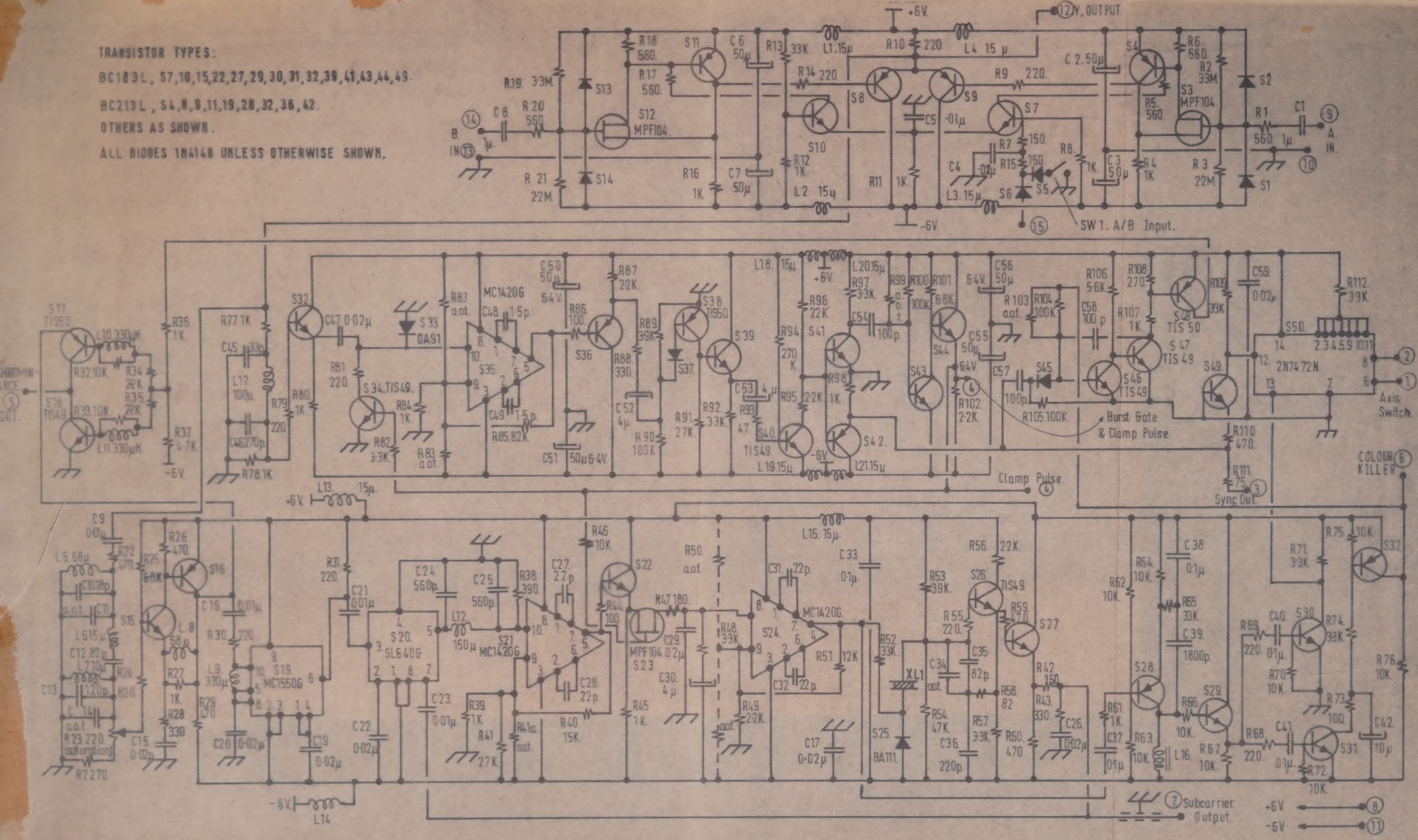
TRANSISTOR TYPES:

BC183L, 57,10,15,22,27,29,30,31,32,39,41,43,44,49.

BC213L, S4,8,9,11,19,28,32,36,42.

OTHERS AS SHOWN.

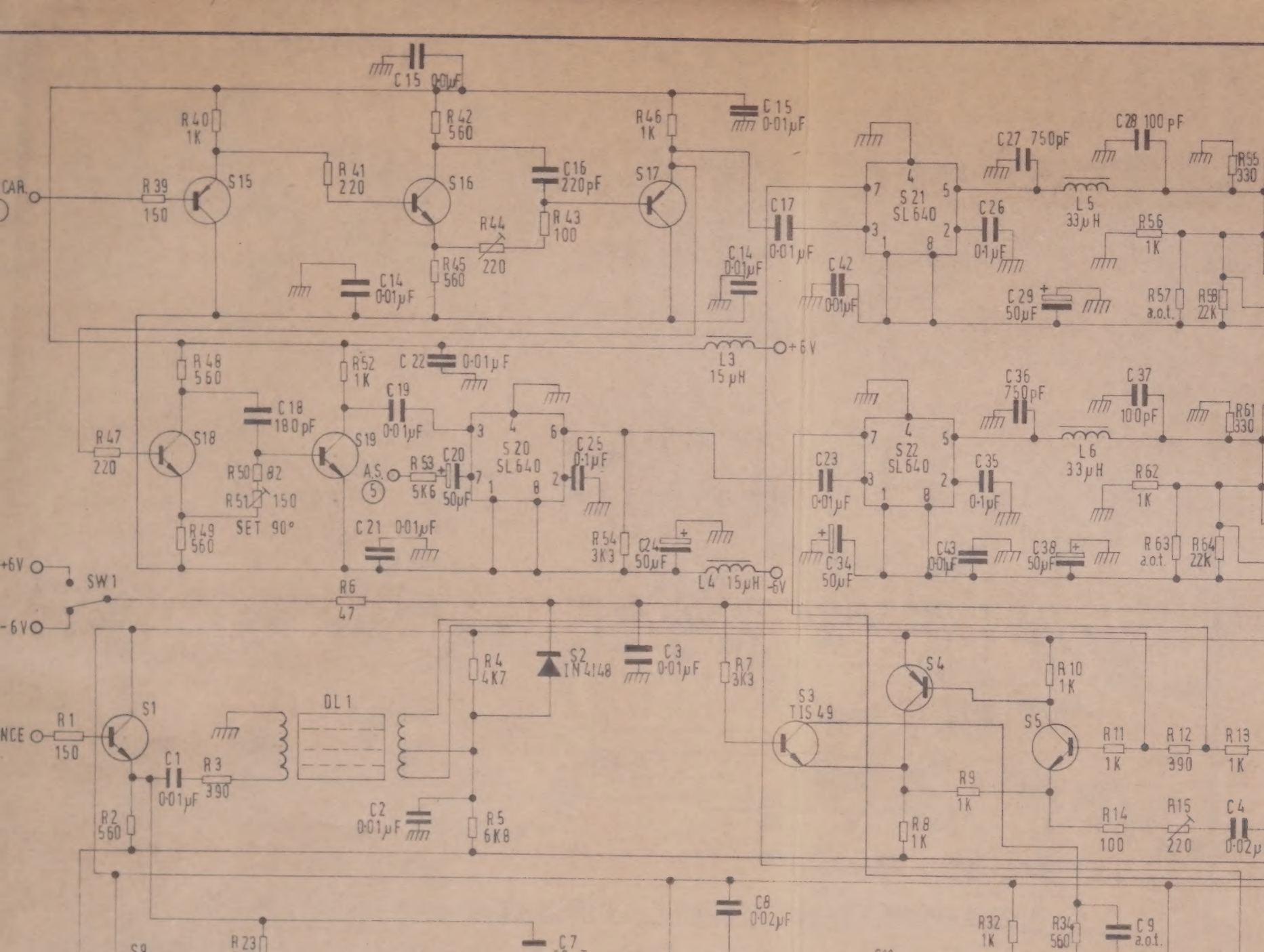
ALL DIODES 1N4148 UNLESS OTHERWISE SHOWN.

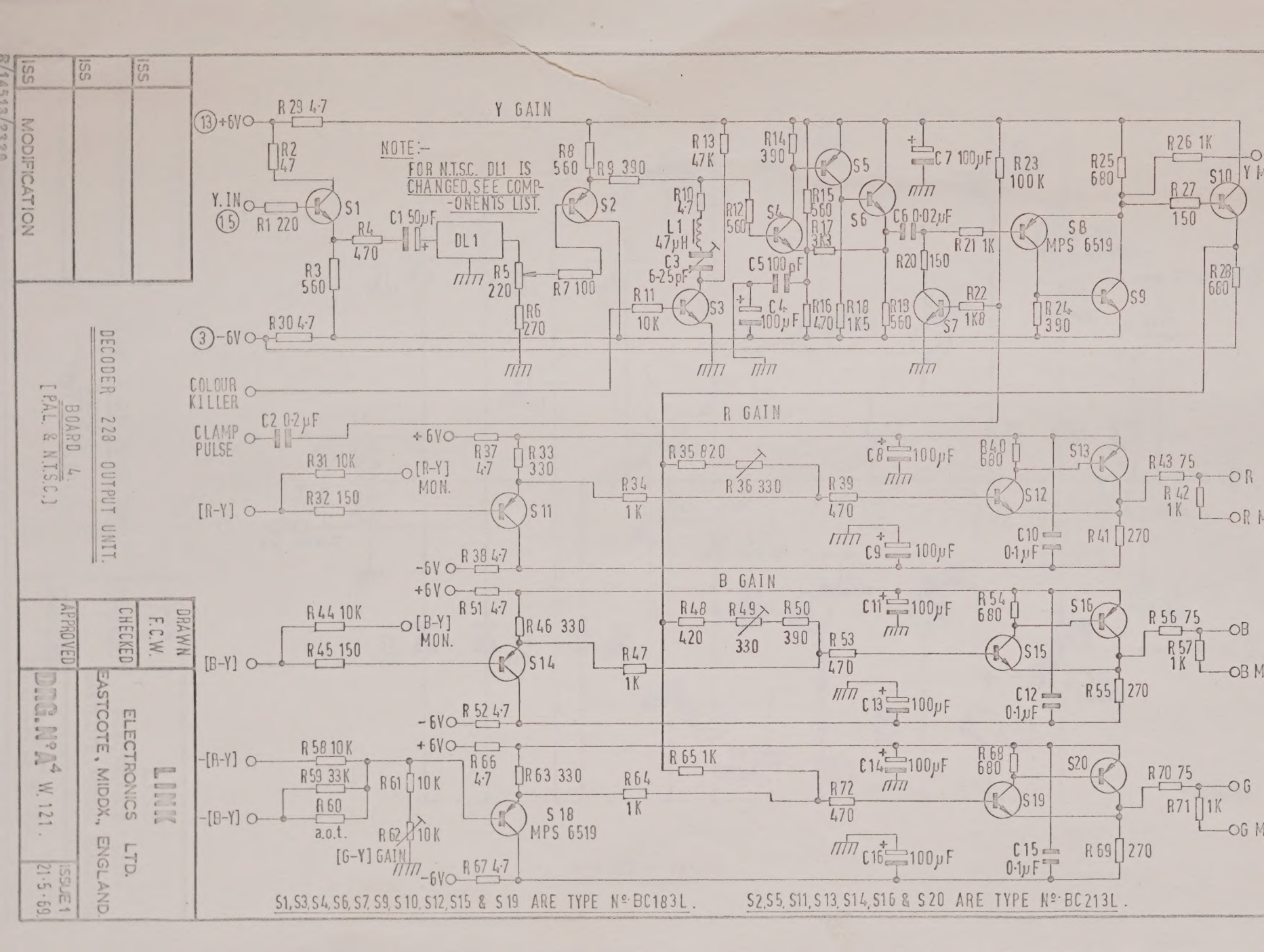


MODIFICATIONS	ISSUE	DECODER 228 BOARD 2. [P.A.L.]
		Burst locked oscillator, sync separator, clamp and blanking pulse generator, and chrominance amplifier.
	DATE	

DRAWN L.G.M.	LINK ELECTRONICS LTD. EASTCOTE, MIDDX., ENGLAND.
CHECKED	
APPROVED	DRG. N°A³ W.126. ISSUE 1 28-5-69

R/14153/2328


C15 0·01µF
R40 1K
R42 560
R46 1K
C15 0·01µF
CAR.
R39 150
S15
R41 220
S16
C16 220pF
S17
R44
R43 100
220
R45 560
C14 0·01µF
C14 0·01µF
C17 0·01µF
S21 SL640
C27 750pF
C28 100pF
L5 33µH
C26 0·1µF
R55 330
R56 1K
C42 0·01µF
C29 50µF
R57 a.o.t.
R58 22K
L3 15µH
+6V
R48 560
R52 1K
C22 0·01µF
C19 0·01µF
C18 180pF
R47 220
S18
S19
R50 82
R51 150
SET 90°
R49 560
A.S.
5
R53 5K6
C20 50µF
S20 SL640
C25 0·1µF
C21 0·01µF
R54 3K3
C24 50µF
L4 15µH
-6V
C36 750pF
C37 100pF
R61 330
S22 SL640
L6 33µH
R62 1K
C23 0·01µF
C35 0·1µF
C34 50µF
C43 0·01µF
C38 50µF
R63 a.o.t.
R64 22K
+6V
SW1
-6V
R6 47
R4 4K7
S2 IN4148
C3 0·01µF
R7 3K3
S4
R10 1K
S3 TIS49
S5
R11 1K
R12 390
R13 1K
R9 1K
R8 1K
R14 100
R15 220
C4 0·02µ
R1 150
S1
DL1
C1 0·01µF
R3 390
R2 560
C2 0·01µF
R5 6K8
C8 0·02µF
C7
R23
R32 1K
R34 560
C9 a.o.t.


DECODER 228 OUTPUT UNIT.
BOARD 4.
[P.A.L. & N.T.S.C.]
ISS MODIFICATION
ISS
ISS
DRAWN F.C.W.
CHECKED
APPROVED
LINK ELECTRONICS LTD.
EASTCOTE, MIDDX., ENGLAND.
D.T.G. Nº A4 W. 121.
ISSUE 1 21·5·69.
Y GAIN
NOTE:- FOR N.T.S.C. DL1 IS CHANGED, SEE COMP-ONENTS LIST.
R GAIN
B GAIN
S1,S3,S4,S6,S7,S9,S10,S12,S15 & S19 ARE TYPE Nº BC183L.
S2,S5,S11,S13,S14,S16 & S20 ARE TYPE Nº BC213L.

MPF 103 = 2N5457.

ISS	
ISS	
ISS	MODIFICATION

DECODER 228 POWER SUPPLY.

BOARD 1.

[P.A.L. & N.T.S.C.]

DRAWN	LINK
F.C.W.	
CHECKED	ELECTRONICS LTD.
	EASTCOTE, MIDDX., ENGLAND.
APPROVED	DRG. N°A4 W. 124. ISSUE 1 27·5·69

R/14513/2329

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